Dockets - Rm 230
2 copies

ORIGINAL

March 24, 1992

87-268

RECEIVED

APR 2 - 1992

Federal Communications Commission
Office of the Secretary

FIFTH INTERIM REPORT

OF THE

FCC ADVISORY COMMITTEE ON

ADVANCED TELEVISION SERVICE

Richard E. Wiley
Chairman

TABLE OF CONTENTS

I. INTRODUCTION

The Advisory Committee on Advanced Television Service was empaneled by the Federal Communications Commission in 1987 to develop information that would assist the FCC in establishing an advanced television ("ATV") standard for the United States.[1] This is the Advisory Committee's Fifth Interim Report.[2]

The work of the Advisory Committee is conducted primarily through its three Subcommittees: Planning, Systems, and Implementation. Section II of this Report is a brief synopsis of the activities of these Subcommittees and their constituent Working Parties during the last year. Section III sets forth three principal Advisory Committee procedural determinations, Section IV states certain findings and conclusions of the Advisory Committee, and Section V offers the Committee's concluding observations.

Since the Fourth Interim Report, the FCC released a Notice of Proposed Rule Making,[3] in which public comment was sought on a number of issues pertaining to the implementation of ATV service.

---

[1] The names and affiliations of the current members of the Advisory Committee are shown in Appendix A.

[2] The previous interim reports are dated June 16, 1988, April 26, 1989, March 21, 1990, and April 1, 1991. Pursuant to a request from the Chairman of the Telecommunications and Finance Subcommittee of the House Energy and Commerce Committee, the Advisory Committee also prepared a report, dated February 4, 1989, addressing the interrelationship of ATV and U.S. competitiveness.

[3] In the Matter of Advanced Television Systems and Their Impact on the Existing Television Broadcast Service, MM Docket No. 87-268, 6 FCC Rcd 7021 (Released November 8, 1991) ("NPRM").

Some of the issues raised in the NPRM also are addressed in this Fifth Interim Report.

II. SYNOPSIS OF ADVISORY COMMITTEE ACTIVITIES

A. Planning Subcommittee Activities

The Planning Subcommittee (PS) has been composed of seven Working Parties and two Advisory Groups.[4] Four Working Parties were active during this reporting period. The report of the Planning Subcommittee is attached as Appendix G.

1. PS/WP-3

Working Party Three, PS/WP-3 (Spectrum Utilization and Alternatives), continued its work in three main areas: ATV spectrum allotments, spectrum to accommodate broadcast auxiliary services, and cross-border spectrum allotments. In the first area, PS/WP-3 investigated alternatives for accommodating ATV systems within the existing VHF and UHF television broadcasting allocations. Based on previously adopted principles, planning factors have been created that are independent of the ATV system employed. Other planning factors, however, are dependent on the performance of particular ATV systems and, thus, will be

---

[4] Both Working Party One, PS/WP-1 (Technology Attributes and Assessment), and Working Party Two, PS/WP-2 (ATV Testing and Evaluation Specifications), were inactive during this reporting period. Working Party Seven, PS/WP-7 (Audience Research) was disbanded during the previous reporting period. Both advisory groups, PS/AG-1 (Creative Issues) and PS/AG-2 (Consumer and Trade Issues), also were inactive during the current reporting period.

developed based on the results of the ATV testing process. PS/WP-3 is developing a methodology and computer tools for evaluating the coverage and interference characteristics of proposed ATV systems and, in order to better calibrate its work in this area, has recommended that the test centers perform subjective evaluations of NTSC-to-NTSC co-channel interference. This recommendation was approved by SS/WP-2 and the Chairman of the Advisory Committee.

The NPRM included a tentative decision that no additional spectrum would be made available for broadcast auxiliary services. Based on an extensive analysis of broadcast HDTV distribution and support circuits requirements, PS/WP-3 has concluded that some additional broadcast auxiliary spectrum may be required to support ATV service in large markets. The Advisory Committee recommends that, in reaching a final judgment on this issue, the Commission give careful consideration to PS/WP-3's findings.

PS/WP-3 also provided support to the FCC's investigation of cross-border spectrum allotments with Canada and Mexico. The Chairman of Canada's Joint Technical Commission on Advanced Broadcasting has advised the Working Party that ATV allotment plans for Canada and the United States will be fully integrated within coordination zones now defined in the Canada-U.S.A. television agreement.

In the coming months, PS/WP-3 plans to complete and test its computer software, prepare accommodation statistics as test data

on each proponent ATV system becomes available, submit these statistics to the Systems Subcommittee Working Party Four (SS/WP-4), and assist the Commission in cross-border allotment negotiations with Canada and Mexico.

2. PS/WP-4

During this reporting period, at the request of the Advisory Committee Chairman, the Planning Subcommittee reconstituted its Working Party Four, PS/WP-4 (Alternative Media Technology and Broadcast Interface), to study issues related to harmonizing an ATV broadcast transmission standard with other advanced imaging and transmission schemes that will be used in other television and non-broadcast applications.[5] PS/WP-4 has determined that, in order to achieve such harmonization, it will be important to include "headers" and "descriptors" within the video data stream to fully identify an image's content and structure. The Chairman of the Planning Subcommittee concurs with PS/WP-4's recommendation that headers and descriptors be included as an essential part of all high resolution digital video data streams consistent with the establishment of an ATV broadcast standard. The Working Party is establishing a liaison group to maintain contact with the Society of Motion Picture and Television

---

[5] Three elements of harmonization have received attention: interoperability, extensibility, and scalability. PS/WP-4's definitions for these and other terms are appended to the report of the Planning Subcommittee. An evaluation of the possible harmonization of the ATV standard ultimately established by the FCC with other imaging resolutions and formats will be undertaken within the existing Advisory Committee timetable.

Engineers (SMPTE), which is developing a recommendation on headers and descriptors.

In early 1992, the Chairman of PS/WP-4 formed a group to study the performance of ATV signals when transmitted by satellite. It was determined that time and resources were not available to conduct physical comparative tests for all of the ATV proponent systems. Thus, the group was assigned the task of defining the satellite environment as it will exist in 1993, and to establish the minimum performance criteria necessary for the transmission of ATV signals. ATV system proponents will be asked to provide performance predictions for the parameters required for satellite transmission.

3. PS/WP-5

Working Party Five, PS/WP-5 (Economic Factors and Market Penetration), worked closely with Systems Subcommittee Working Party Three, SS/WP-3 (Economic Assessment), during this reporting period. The principal activity of PS/WP-5 was the refinement of macro-economic projections for adoption of ATV service, including an ATV receiver penetration model. The Working Party plans to develop a revised ATV equipment market penetration model that takes account of alternative delivery media and the impact of digital technology, and intends to continue its work with SS/WP-3 to determine the cost and complexity of encoders and decoders.

4. PS/WP-6

During this reporting period, Working Party Six, PS/WP-6 (Subjective Assessment), gave consideration to the need for additional subjective testing. The Working Party will prepare a single-format ATV program sequence of several sports, approximately one hour in length, to be available for use in confirming the system selected for field testing. The Working Party Chairman reports that some funds remaining from previous production efforts may be available for this purpose.

B. Systems Subcommittee Activities

The Systems Subcommittee (SS) is composed of four Working Parties. The report of the Subcommittee is attached as Appendix H.

1. SS/WP-1

Working Party One, SS/WP-1 (Systems Analysis), through written analyses, determines the viability of each ATV system proposed for the testing under the auspices of the Advisory Committee, and grants certification to systems as appropriate. The Working Party has now granted final certification to five of the six systems proposed for testing.[6] SS/WP-1 will meet, within

---

[6] These systems are: 1) Advanced Compatible Television (ACTV) by the Advanced Television Research Consortium (ATRC); 2) Narrow MUSE by NHK; 3) DigiCipher, by the American Television Alliance (ATVA); 4) Digital Spectrum Compatible High Definition Television (DSC-HDTV) by Zenith/AT&T; and 5) Advanced Digital High Definition Television (AD-HDTV) by the ATRC. The ATRC is composed of the David Sarnoff Research Center, North American

(continued...)

the next month or so, to consider final certification of the sixth proponent, the ATVA progressive system.

2. SS/WP-2

Working Party Two, SS/WP-2 (System Evaluation and Testing), oversees the testing of the proposed ATV systems by the Advanced Television Test Center, Inc. (ATTC),[7] the Cable Television Laboratories, Inc. (CableLabs),[8] and the Advanced Television

---

[6](...continued)
Philips, Thomson Consumer Electronics, NBC, and Compression Labs, Inc. The ATVA is composed of General Instrument and the Massachusetts Institute of Technology (MIT). In accordance with an exchange of correspondence between James Carnes of the David Sarnoff Research Center and the Advisory Committee Chairman (attached to this Interim Report as Appendix B), if any future consideration of ACTV is to be initiated, it will be only at the discretion of the Advisory Committee.

[7] Located in Alexandria, Virginia, the ATTC was established in 1988 to conduct impartial, broadcast-related laboratory objective ATV tests. The ATTC also prepares digital video tape recordings for non-expert viewer subjective tests conducted at the Advanced Television Evaluation Laboratory (ATEL), located in Canada. During the past eight months, the ATTC has completed tests of the first three ATV proponent systems: ACTV, Narrow MUSE, and DigiCipher. At the time of this Report, the fourth proponent system, DSC-HDTV, is under test at the ATTC.

[8] CableLabs was established in 1988 as a research center for cable television system operators in the United States and Canada. CableLabs' ATV testing efforts are collocated with the ATTC in Alexandria, and entail cable related laboratory objective tests and the preparation of tapes for evaluation by the ATEL. CableLabs also completed tests on the first three ATV proponent systems and, at the time of this Report, is also testing the fourth proponent system. The Advisory Committee remains committed to thorough testing of both the broadcasting and cablecasting aspects of ATV.

Evaluation Laboratory (ATEL).[9] ATTC testing of the first ATV system began July 12, 1991.[10]

The Test Management Plan and several Test Procedures Plans followed by the test centers were developed by SS/WP-2. Because of fundamental changes made to four of the proponent systems,[11] SS/WP-2 found it necessary to modify and enhance several aspects of the Test Procedures Plans, and to develop additional Digital Specific Tests.[12] The additional time and resources required to

---

[9] The ATEL, located near Ottawa, Ontario, is a laboratory of the Communications Research Centre of Canada's Department of Communications, and was established to conduct video subjective assessments of ATV systems (under the joint supervision of the Advisory Committee and Canadian authorities). ATEL testing of the first two proponent systems has been completed, and testing on the third proponent system is nearly accomplished at the time of this Report.

[10] Test laboratory reports, which record test results without conclusions or recommendations, will be delivered to SS/WP-2. The Advisory Committee recognizes that, as data from the test process becomes available, participants in the Advisory Committee process may be asked to comment on various aspects of the test results. Accordingly, the Committee has developed the following policy on such comments: no individual should comment on the test results on behalf of the Advisory Committee. Any comments on test results by an Advisory Committee participant should include a clear disclaimer that the individual is not speaking on behalf of the Advisory Committee or with special knowledge derived from the individual's association with the Advisory Committee's work. Subcommittee and Working Party leaders, and those sub-group leaders involved with data analysis, are encouraged to refrain from commenting on the test results, even with a disclaimer.

[11] Four of the originally pre-certified ATV systems were modified to incorporate digital transmission schemes. The genesis of these modifications is described in the Fourth Interim Report of the Advisory Committee, at pages 3-4.

[12] In addition, the time available for System Specific Tests, which had been contemplated in the Test Management Plan, was extended from one day per system to two days per system.

perform these important tests was considered and approved by the Advisory Committee leadership and the system proponents. While these new tests have impacted the Committee's overall schedule, as discussed more fully below in Section III, the tests are deemed essential to make a reasoned determination on the technical merits of the various digital proponent systems.

A task force of SS/WP-2 has developed procedures for field testing an ATV system.[13] Charlotte, North Carolina, has been selected as the site for the field tests because of local terrain and spectrum availability characteristics. FCC staff have concurred in this site selection. The tests will be conducted in the first half of 1993 and will entail both broadcasting and cablecasting components.[14] The results of the Advisory Committee's field testing program will be provided to the Commission in a report discussed in Section III, *infra*.

The Public Broadcasting Service (PBS) will manage and conduct the field tests, and will be responsible for coordination of the program. The Association for Maximum Service Television, Inc. (MSTV) will provide technical support and assistance to PBS

---

[13] The intent of the Advisory Committee, as discussed fully in Section III, *infra*, is to field test only the system recommended to the FCC by the Advisory Committee based on the laboratory tests (or, possibly, a "winning" system *and* a "runner-up").

[14] Several manufacturers have agreed to provide antennas, transmission lines, transmitters, and most of the RF hardware for the tests. Test personnel will include representatives from the system proponent and the FCC. The Commission's Field Operations Bureau also may provide the use of a field test vehicle. Broadcast and cable operators will provide use of transmission outlets, buildings, and other facilities.

in analyzing the broadcast test results. CableLabs will assist PBS in conducting the cable aspects of the program and will be primarily responsible for analyzing cable test results. The field test program will be guided by a technical oversight committee (chaired by the Chairman of the Advisory Committee) and by the FCC.

3. SS/WP-3

Working Party Three, SS/WP-3 (Economic Assessment), was assigned the responsibility of investigating ATV distribution costs and assessing the economic and technological feasibility of each ATV system under test. The Working Party has spent the greater part of the past year refining the growth curves that describe market penetration of ATV to U.S. homes.[15] In the coming months, SS/WP-3 will examine the hardware details of each system, provided by the system proponents, in order to evaluate potential costs to consumers, broadcasters and alternative media.

4. SS/WP-4

Working Party Four, SS/WP-4 (System Standard), has the assignment of examining and analyzing all the data gathered or developed in other areas of the Advisory Committee.[16] To this

---

[15] In this work, PS/WP-3 has cooperated with PS/WP-5 and IS/WP-2.

[16] These analyses will be presented to the Special Panel, described in Section III, *infra*, for comparative evaluation among systems.

end, SS/WP-4 has developed a process for recommending an ATV system, and has agreed to a list of ten Selection Criteria. These criteria fall into three basic categories (spectrum utilization, technology, and economics) and are considered to be the key parameters that must be examined in comparing ATV systems. SS/WP-4 also is developing a set of "target values" for the Selection Criteria. These targets are understood to represent optimum levels of performance in an ATV system, not minimum criteria that systems must meet.

A major task of SS/WP-4 is to draft the bulk of the Final Report of the Advisory Committee. The outline for this draft already has been completed and is appended to the Systems Subcommittee report. In the coming months, the Working Party will write various sections of the Final Report, analyze data obtained from ATV testing, and prepare a report on each system. The chairman of the Working Party also will chair the Special Panel, described in Section III, *infra*.

C. Implementation Subcommittee Activities

The Implementation Subcommittee (IS) is composed of two Working Parties. The report of the Implementation Subcommittee is attached as Appendix I.

1. IS/WP-1

Working Party One, IS/WP-1 (Policy and Regulation), focused its efforts during this reporting period on rules and policies

which could reduce cost and delays in implementing ATV broadcasting. Specifically, IS/WP-1 has recommended that the Commission:

1. Adopt an ATV allotment/assignment scheme contemporaneous with adoption of an ATV standard; consider a site-specific assignment plan in order to promote co-location of ATV and NTSC antenna sites; and clearly define its methodology for making ATV assignments as expeditiously as possible.

2. Eliminate or streamline formalities in the application process, and adopt a liberal extension of time policy with respect to ATV applications where appropriate due diligence showings are made; for example, when ATV and NTSC towers cannot be co-located.

3. Adopt a "staggered processing" policy with applications for the largest markets considered first, and smaller markets thereafter. This procedure would facilitate the efficient use of Commission resources, and would phase construction deadlines to reflect broadcaster construction capabilities.

4. Confirm that "construction" means the ability to emit signals embodying the ATV transmission standard, excepting delays beyond the permittee's control; and require ATV licensees to file at renewal time a report on the steps taken to implement ATV service.

IS/WP-1 also has recommended that the Commission consider requiring system proponents to attest to their willingness to license technology on reasonable and nondiscriminatory terms.[17]

2. IS/WP-2

Working Party Two, IS/WP-2 (Transition Scenarios), has continued to develop charts of the ATV implementation process for various industry segments. The tentative conclusions of IS/WP-2

---

[17] Further, IS/WP-1 has recommended that the selected ATV system should be described sufficiently to enable broadcasters to confirm that they are radiating the approved standard and to enable equipment suppliers to manufacture equipment capable of producing or receiving the approved standard signal.

reinforce the recommendations of IS/WP-1 concerning rules and policies which might be adopted by the Commission in order to expedite the introduction of ATV service in the United States. Specifically, the work of IS/WP-2 supports IS/WP-1's recommendations on the timing of channel allotments and assignments, the need for a liberal extension of time policy with respect to ATV applications where appropriate due diligence showings can be made, the desirability of processing applications for the largest markets first, and the need for a confirmed definition of "construction." IS/WP-2's studies also have confirmed the need for timely release and dissemination of comprehensive technical information concerning the recommended ATV system, and are premised on publication of the required technical information contemporaneous with the FCC's NPRM proposing the system standard.

III. PROCEDURAL DETERMINATIONS

In each of its four previous Interim Reports, the Advisory Committee has described changes in its activities required by evolving technology and operational experience. As the Committee enters the final phases of its work, such accommodations necessarily continue. To complete its comprehensive ATV testing program and to develop an ATV system recommendation to the FCC, the Advisory Committee believes that:

1) The deadline for the ATV system recommendation to the FCC should be extended to February, 1993;

2) The Advisory Committee should appoint a Special Panel, composed of knowledgeable and experienced Advisory Committee participants, to make a thorough technical analysis and comparison of the ATV proponent systems and to assist the Committee in preparing its system recommendation to the Commission; and

3) The Advisory Committee Chairman should appoint a broad-based technical oversight committee to guide the field test program.

A. Extension of Advisory Committee Timetable

When the FCC created the Advisory Committee in September 1987, advanced television development had not progressed as it has today. At that time, only one system architecture, an analog transmission scheme envisioned for relatively wide bandwidth satellite channels, had been reduced to hardware. No fully digital transmission systems were then under consideration. Based on the technical ATV system data then available, the Advisory Committee developed a detailed test plan.

On a parallel track, the broadcast, cable television and receiver manufacturing industries jointly created the facilities required to perform the testing of ATV systems in accordance with the Advisory Committee's test plan. The ATV testing program was an ambitious one requiring creative systems engineering as well as the invention of specialized equipment never before conceived.

Despite the best intentions and innovative efforts of all concerned, the ATV testing program did not proceed at the pace originally envisioned. The completion of the test laboratories was retarded by delay in delivery of the newly invented format converter, a key test device. Moreover, ATV research and

development was extended when a majority of proponents elected to pursue digital transmission systems. This shift to digital transmission techniques in four of the systems also required specification and design of new tests and modifications of existing test equipment. As previously indicated, implementation of these significant changes necessarily has added time to the test program.

In 1990, the FCC announced its desire to conclude its ATV proceeding by 1993. Consistent with that objective, the agency requested that the Advisory Committee submit a report and ATV system recommendation by September 30, 1992. For the reasons described above, it is now evident that the Advisory Committee will not be able to meet that deadline.

As detailed in the attached report of the Systems Subcommittee, the laboratory reports on the final ATV system to be tested, complete with comments from the proponent, are not expected until late October or early November, 1992. It is anticipated that the analysis of laboratory data on the last system, the ensuing comparative analysis among proponent systems, the drafting of required reports, the presentation of a staff recommendation to the full Advisory Committee, and a Committee meeting to consider that recommendation will consume several additional months. Accordingly, the Advisory Committee recommends that the submission deadline for its report identifying a recommended system be extended until February, 1993 (a delay of some four months from the original schedule). It is

contemplated that the next meeting of the Advisory Committee, one in which this report will be considered, will be held in late January of next year.

B. Appointment of Special Panel

It is the parent Advisory Committee that has the sole responsibility for recommending an ATV system to the FCC.[18] However, in formulating such a recommendation, the Committee needs the benefit of technical analyses and system comparisons developed by experts functioning within the Committee's various Subcommittees and Working Parties. The specific means by which the Committee can receive comprehensive, informed and balanced technical input has been the subject of discussion within SS/WP-4 and among the Committee's leadership for some time.

Subcommittee and Working Party meetings are open to all interested parties and, over the past five years, hundreds of dedicated individuals have volunteered their talents and services to the Advisory Committee. However, given the vagaries of individual schedules and commitments, Subcommittee and Working Party attendance has varied widely from meeting to meeting. Moreover, numerous ATV proponents have participated in such

---

[18] The Committee (*see* Appendix A) includes *ex officio* members who hold office in Federal government agencies or who are executives in entities developing ATV systems. Although these *ex officio* members are permitted to take part fully in Advisory Committee deliberations, FCC Chairman Sikes made clear in a February 14, 1992, letter to the Advisory Committee Chairman that "they may not participate in any vote and the Parent Committee is not obligated to embody their views in its final report." A copy of this letter is attached as Appendix C.

meetings. While proponent input has been extremely valuable, the Advisory Committee must have the benefit of analyses undertaken by experts who have no direct conflict of interest and who are willing to devote a concentrated period of time in evaluating test results and developing system recommendations.

Accordingly, the Systems Subcommittee has recommended that a Special Panel be appointed by the Advisory Committee to undertake this effort. Such a Special Panel would be made up of Advisory Committee staff leaders and other knowledgeable Committee members who are not affiliated with any system proponent.[19]

The Advisory Committee concurs with the Subcommittee's recommendation and hereby creates such a Special Panel. The Panel will be chaired by Dr. Robert Hopkins, Chairman of SS/WP-4. Its members will include the leadership of Subcommittees and Working Parties who are unaffiliated with a proponent plus other knowledgeable experts recommended by the Advisory Committee Chairman (based on an effort to include diverse elements of the Committee's overall composition). In addition, FCC staff, a single representative from each of the five HDTV proponent systems, test laboratory officials, and the Advisory Committee Chairman will participate in the deliberations of the Special Panel. However, such *ex officio* participants will not be accorded a vote on any conclusions or recommendations to the

---

[19] The concept of excepting those with direct business interests coincides with the concerns and directions expressed by FCC Chairman Sikes in his February 14, 1992, letter to the Advisory Committee Chairman, noted in footnote 18, *supra*.

Advisory Committee. A full list of the Special Panel is attached in Appendix D to this Interim Report.

It is contemplated that the Special Panel will convene during the first week of January 1993 (specifically, January 4 through 9, or as much of that week as is required to complete its important work). The Panel, whose sessions will be completely open to the public, will function in accordance with the guidelines set forth in Appendix D to this Interim Report.

C. Field Testing Management Structure

As reported above in the synopsis of System Subcommittee activities, plans are being finalized to conduct field tests during the first half of 1993.[20] These tests are designed to validate the laboratory results, and not as a comparative process among various ATV proponent systems. Accordingly, it is anticipated that only one ATV system will be field tested. However, it is possible (although unlikely) that the recommended (or "winning") system might fail to perform in the field and, if so, provisions would be made to field test a second (or "runner-up") ATV system. The results of field tests will be provided in

---

[20] To provide equipment redundancy and to permit simultaneous execution of both broadcast and cable television field tests, the selected system proponent(s) will be asked to furnish two identical ATV decoders for use in the field tests.

an Advisory Committee report to the FCC, to be completed prior to the end of June, 1993.[21]

Technical guidance and program oversight should be provided by a Field Test Technical Oversight Committee. This Committee will be appointed and chaired by the Chairman of the Advisory Committee. The names and affiliations of the other members of the Oversight Committee are listed in Appendix E to this Interim Report.

IV. FINDINGS AND CONCLUSIONS

A. Review of Technology

In November 1990, the Advisory Committee, the ATTC, and the CableLabs entered into a Memorandum of Understanding ("MOU") with the FCC that would formalize the government-industry partnership to develop a terrestrial ATV standard. The MOU requires, among other things, that the Advisory Committee review the state of technology to identify whether there exist any "new technical advancements in the state of the art, not already provided by the ATV systems pre-certified by the Advisory Committee, that appear to offer important benefits to the public and are sufficiently concrete so as to be tested contemporaneously with the pre-

---

[21] Subject to the wishes of the FCC, the Advisory Committee would contemplate that this Field Test Report would be its final action and that, by June 30, 1993, it would disband.

certified systems."[22] The MOU specified that the report to the FCC on such developments should be made by early 1992.[23]

Such a review has been conducted by members of the Planning and Systems Subcommittees, and is attached as Appendix F to this Report. It has identified a number of techniques, still in the developmental stage, for the compression of video signals. However, none of these concepts "are sufficiently concrete so as to be tested contemporaneously with the [pre-]certified systems."[24] Accordingly, the Advisory Committee believes that the five HDTV proponent systems now under consideration represent the state of available technology. The Committee thus does not intend to evaluate any other system proposals.

B. Specification of Standards

As described above in the synopsis of activities of the Implementation Subcommittee, Advisory Committee participants believe that, in order to promote expeditious ATV equipment development, detailed technical specifications and disclosures need to be formulated and disseminated to equipment manufacturers and to broadcasters. Similarly, FCC staff members have expressed a desire to include certain technical particulars in the Commission's final rule making notice that proposes a specific ATV standard.

---

[22] MOU, November 14, 1990, at p. 3.

[23] *Id.* at p. 4.

[24] *See* MOU at p. 3.

The Advisory Committee was formed to counsel the FCC and proffer a recommendation on the best available ATV system. Other organizations, however, are better suited to develop a completely specified technical standard. It is the Advisory Committee's understanding that relevant discussions are underway among such standards-making bodies, and the Committee is confident that an appropriate organization will volunteer to conduct this important assignment. For the reasons specified above, however, detailed specifications must be articulated quickly. Accordingly, proponents are urged to begin developing such specifications so that comprehensive technical information concerning the recommended system can be released in a timely fashion at the conclusion of the Advisory Committee's work.

C. Channel Allotment/Assignment Issues

As described in Section II above, the Implementation Subcommittee has examined rules and policies that are needed to promote the introduction of ATV service. The timely adoption of an efficient allotment and/or assignment plan appears to be essential to the expeditious deployment of advanced television service. PS/WP-3 is working diligently to create an optimal channel plan based on principles now evolving from discussions both within the Advisory Committee and among individual broadcasters. The Committee will continue to work closely with FCC staff to refine these principles as discussions and technical analyses proceed. The Committee would urge the Commission, as it

develops its ATV channel assignment plan, to consider carefully the product of these activities.

V. CONCLUDING OBSERVATIONS

The Advisory Committee's efforts over the past five years have been both daunting and rewarding. The development and evaluation of ATV systems within a public process has put the Advisory Committee, the FCC and, indeed, North America in the forefront of the world's advanced television activity. The challenge now facing the Advisory Committee is to complete its activity as expeditiously and effectively as possible in order to facilitate the FCC's establishment of a new television standard for this country. Without question, the crucial phase of the Committee's activity has begun.

The Committee continues to be indebted to the hundreds of firms and individuals involved in this entire project. Their cooperative and productive efforts have made a great contribution to the advancement of the video medium. The Committee also is extremely grateful for all of the oversight, guidance, and support provided by the FCC (including its Chairman, members, and key staff officials). Finally, due recognition should be